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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Larry W. Fullerton

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EXAMINER

TSE, YOUNG TOI

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/784,747	Applicant(s) FULLERTON ET AL.	
	Examiner YOUNG T. TSE	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008 and 30 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-25, 27-34 and 36-42 is/are pending in the application.
- 4a) Of the above claim(s) 7-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-25, 27-34 and 36-42 is/are rejected.
- 7) ☒ Claim(s) 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 10, 2008 have been fully considered but they are not persuasive.

Applicants argue and believe that the amended Fig. 10 to include a semiconductor switch 1027 as part of the output stage 1028 and the insertion of the semiconductor switch 1027 in the specification introduce no new matter because someone skilled in the art would clearly recognize from the disclosure of the U.S. Patent 4,641,317, which is incorporated by reference in paragraph [0003] of the present invention.

The examiner respectfully disagrees, although the U.S. Patent 4,641,317 is incorporated by reference in paragraph [0003] of the present invention, it appears that the transmitter shown in Fig. 1 of the U.S. Patent 4,641,317 comprises totally different block elements than the transmitter(s) shown in the disclosure of the present invention. The U.S. Patent 4,641,317 also fails to describe which block elements are part of an output stage, even the semiconductor switch comprise at least one transistor and the time domain filter of the U.S. Patent 4,641,317 are considered as part of an output stage, the pulse position modulator 22 is different than the code time modulator and/or the subcarrier time modulator shown in the transmitters of the present invention, in other words, replacing the semiconductor switch comprise at least one transistor and the time domain filter of the U.S. Patent 4,641,317 into the output stage of the present invention

may be inoperative or work improperly from the code time modulator and/or the subcarrier time modulator of the transmitters.

Drawings

2. The drawings were received on March 10, 2008. These drawings are not acceptable because the new matter introduced.

Claim Objections

3. Claims 27-30 are objected to because of the following informalities:

Claim 27, line 2, "based upon" should be "is based upon".

Claim 30, line 2, "is a based on" should be "is based on".

The dependent claims 28 and 29 are objected to because they are either directly or indirectly depended from the objected precedent claim 27.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 28-29 and 37-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in

the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The amended Fig. 10 to include a semiconductor switch 1027 as part of the output stage 1028 and the insertion of the semiconductor switch 1027 in the specification introduce new matter because the instant application is a continuation U. S. Applications 09/037,704 and 08/949,144 and the claimed subject matter recited in claims 28-29 and 37-38 of the instant application were not recited in the original claims of the above applications. Further, the specification fails to describe that the trigger signal used to trigger the ultra wideband signal is apply to at least one switch as recited in claims 28 and 37, and the at least one switch comprises at least one transistor as recited in claims 29 and 38 in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 23, 31 and 40 all recite the limitation "the time domain" in line 4 of each claim. There is insufficient antecedent basis for this limitation in the claims.

Allowable Subject Matter

8. The indicated allowability of claims 26 and 35 is withdrawn in view of the newly discovered reference(s) to Fullerton in view of Buchan et al.. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 23-24, 27-33, 36-40 and 42 are rejected under 35 U.S.C. 103(a) as being obvious over Fullerton (U.S. Patent No. 4,641,317) in view of Buchan et al. (U.S. Patent No. 5,267,096, hereinafter "Buchan").

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject

matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claims 23, 31 and 40, Fullerton discloses a spread spectrum wide band transmitter in Figure 1 comprising an output stage that generates an ultra wideband signal, for example, by the antenna 90 (col. 4, lines 33-38); a time domain filter 82 that spectrally modifies the ultra wideband signal in time domain; and the antenna 90 coupled to the filter that radiates the spectrally modified ultra wideband signal. Although Fullerton shows the wide spread signal in the time domain in waveform H of Figure 4 is being the composite of the shaping effects of the filter 82, but fails to teach or suggest that the filter 82 spectrally modifies the wide spread to create one or more zero crossings in the time domain even the waveform H indicates zero crossings in the time domain.

Buchan shows a time domain filter 225 in Figure 5 and a waveform shown in Figure 6 that generated by the time domain filter 225. Buchan also teaches that a well known time domain filter essentially detects when the timing of input crosses zero, delays a predetermined amount, and then examines the amplitude qualification signal

as to whether or not it has exceeded one of two threshold levels that are on either side of a reference by equal amounts (col. 10, lines 15-20). Buchan also teaches that Figure 6 sets forth waveforms that represent the timing channel and amplitude qualification inputs to the time domain filter, ... following a zero crossing by the timing signal (col. 10, lines 39-47).

Therefore, it would have been obvious to one of ordinary skilled in the art to recognize that a time domain filter is capable of modifying ultra wide band signal to create one or more zero crossings in the time domain as either well known to a skilled person the art or taught by Buchan in order to modify a filter input signal, such as the wide spread signal used in Fullerton's transmitter to create one or more zero crossings in the time domain of the time domain filter 82.

Regarding claims 24 and 32, wherein the wide spread signal or the ultra wideband signal comprises at least one of a pulse generated from the pulse position modulator 22 or a monocycle generated by the mono 46.

Regarding claims 27, 36 and 42, wherein the wide spread signal or the ultra wideband signal is based upon a trigger signal generated by the triggering amplifier 52.

Regarding claims 28-29 and 37-38, the trigger signal generated by the triggering amplifier 52 is applied to at least one switch, which comprises at least one transistor (66 or 68).

Regarding claims 30 and 39, wherein the trigger signal is based on at least an information signal (audio signal) from microphone 34.

12. Claims 25, 34 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton in view of Buchan as applied to claims 23, 33 and 40 above, and further in view of Howell (U.S. Patent No. 4,583,232).

Regarding claims 25, 34 and 41 as applied to claims 23, 33 and 40 above, although Fullerton fails to teach or suggest that the time domain filter 82 is a bandpass filter.

Howell discloses a time domain 24 in Figure 1 which is a time domain bandpass filter and teaches that the time domain bandpass filter 24 passes the square wave to its output if frequency is within the pass band and has no output otherwise (col. 3, lines 19-23).

Therefore, it would have been obvious to one of ordinary skill in the art to use a time domain bandpass filter as Fullerton's time domain filter 82 as taught by Howell in order to output only the pass band of the input signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is 571- 272-3051. The examiner can normally be reached on Monday-Friday 10:00-6:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on 571- 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YOUNG T. TSE/
Primary Examiner, Art Unit 2611